

Nonradioactive Iodide Assay kit

Assay kit D05076

- Easy-to-use assay kit
- Nonradioactive waste
- Less than 1 hour of bench time



Iodide is essential in the metabolism as it allows temperature regulation, intellectual development for children, muscular development, normal heart function and skeleton growth. Iodide transport is the basis for an emerging approach to selective cancer cell destruction.

Iodide uptake from blood into thyroid follicular cells is the first step in the biosynthesis of thyroid hormones T3 and T4, known to regulate many essential biological processes.

Thyroid hormones are indispensable for body development. This transport is mediated by NIS (sodium iodide symporter **SLC5A5**), which is an intrinsic membrane glycoprotein located in the basolateral membrane of thyrocytes. Since the NIS discovery, thorough biochemical analysis has elucidated the mechanism of basolateral iodide transport and revealed the key role of NIS in **thyroid diseases** such as thyroid cancer, autoimmune diseases, and congenital hypothyroidism.

If the rate is not in normal proportions, some diseases may develop as an underactive thyroid if the rate is too low, or an overactive thyroid if the rate is too high. Other diseases exist such as chronic thyroiditis of Hashimoto, or cancer of the thyroid gland.

Iodide deficiency causes many thyroid metabolism disorders; thus, it is important to control iodide rates to prevent all of these diseases.

Endocrine disruptors may affect iodide uptake, leading to **thyroid hormone dysregulations**.

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FOCUS ON THE ASSAY

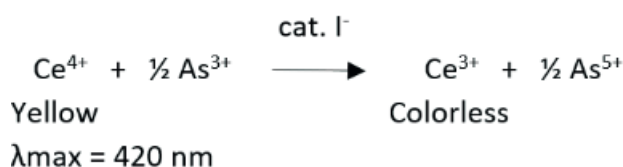
The present assay is a nonradioactive method for the measurement of Iodide.

This Iodide assay is based on the oxide reduction reaction:

Cerium(IV) is reduced by arsenic(III). The reduction of yellow (420 nm) cerium(IV) to colorless cerium(III) by arsenic(III) proceeds very slowly but traces of Iodide strongly accelerate this reaction with the rate being directly proportional to Iodide concentration.

For a given time, the decay is inversely proportional to the Iodide concentration in the well.

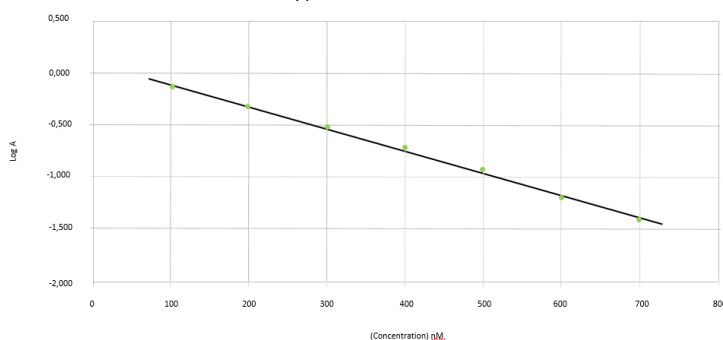
This method is simple and nonradioactive, and as such it can be used widely.



TECHNICAL DATA

- **Size:** 96 wells
- **Shelf life:** 1-year maximum after production
- **Shipping:** Wet ice
- **Stability:** Store at +4°C
- **Limit of detection:** 0.07 ng/mL
- **Sample volume:** 100µL
- **Standard curve range:** 100-700 nmoL/L
- **Application(s):** Iodide quantification
- **Media application:** It is the user's responsibility to check the compatibility of the assay with the study matrix

Typical standard curve



RELATED PRODUCTS

- 20 Hydroxycydysone ELISA kit